



ARKANSAS
Department of Environmental Quality

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Return Receipt Requested

April 29, 2015

USEPA Region 6
Attn: Mr. Stephen Tzhone
Mail Code: 6SF
1445 Ross Avenue, Suite 1200
Dallas, TX 75202-2733

**RE: Draft Dioxin Reassessment Risk Evaluation, dated March 31, 2015 &
Supplemental Groundwater Tracing Summary, dated March 2015
Arkwood, Inc. Site, Omaha, Arkansas,
EPA ID# ARD084930148; AFIN# 05-00003**



Dear Mr. Tzhone:

9595845

The Arkansas Department of Environmental Quality - Hazardous Waste Division (ADEQ) has received the Draft Dioxin Reassessment Risk Evaluation Analytical Data from Decision Unit Sampling Report, dated March 31, 2015 and the Supplemental Groundwater Tracing Summary Report, dated March 2015 for the Arkwood, Inc. Site, Omaha, Arkansas. The ADEQ does not have any comments in regards to the dioxin reassessment sampling report. The ADEQ has the following comments for the groundwater tracing summary:

Section 4 Summary and Conclusions, page 25:

- 1) *"1. Groundwater from the former sinkhole area on-site only discharges from New Cricket Spring. Groundwater from this area does not discharge from Cricket Spring, the southeast end of the railroad tunnel, or in the Walnut Creek valley."*

ADEQ concurs with this conclusion based on the mean flow discharge rates from New Cricket Spring recorded during the study period from November 1, 2014 to January 5, 2015. However, at a certain (unknown) threshold water level in the epikarst formation (and consequential high flow rate from New Cricket Spring), the mobile porosity will exceed the elevation of the groundwater divide on the site, with potential contaminant discharge to the adjacent railroad tunnel spring as has previously occurred. Future remedial activities should account for this issue.


- 2) *"6. A common default value for the percent of mobile porosity in aquifers is 20% (Sutherson et al. 2014). The remaining 80% of total porosity is non-mobile. Based on dye tracing results the non-mobile porosity in the tested portion of the epikarstic aquifer at the Arkwood site is 55%. Given these values, and the absence of dye detections at off-site locations (except minor detections at Cricket Pond), the data clearly demonstrate that the*

introduced dyes either discharged from New Cricket Spring or are detained within the non-mobile porosity of the epikarstic aquifer associated with the former sinkhole area on-Site and New Cricket Spring."

The data indicates that a significant proportion of the pentachlorophenol (PCP) is detained in the non-mobile portion of the epikarstic aquifer between the former on-site sinkhole and New Cricket Spring. Based on the physical properties of PCP (density, solubility in water, and increased water solubility with increased pH in karst terrain), it appears that a large volume of this contaminant is stored within the epikarstic aquifer, and is likely to be discharged in response to fluctuating groundwater levels indefinitely. Future remedial activities should account for this issue.

If you have any questions or concerns, please contact me at 501-682-0852 or via e-mail moix@adeq.state.ar.us.

Sincerely,



Mark Moix,
Engineer, PE
Technical Branch
Hazardous Waste Division